Prevalence of eyeworm *Oxyspirura mansoni* (Cobbold, 1879) infection of domestic fowl in Andaman Islands

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**Abstract**

A survey was conducted to record the prevalence of eyeworm infection in poultry (domestic fowl) in South Andaman Islands, India. Out of 250 birds examined, 48.00% was found infected with *Oxyspirura mansoni*. Among the birds of three age groups, 53.93% prevalence was recorded in birds of 15 days to 5 months age followed by 49.40% in birds of below 15 days and lowest record of 39.74% prevalence in birds of above 5 months age. Treatment of affected eyes with 10% solution of tetramisole hydrochloride showed a good response within 7 days.

Keywords: Eyeworm, *Oxyspirura mansoni*, Domestic fowl, Andaman.

**Materials and Methods**

The study was conducted at the Guptapara village under the Ferrargunj tehsil of south Andaman in domestic fowl of backyard poultry farms adopted by the villagers who faced lot of ophthalmic problems in birds. A total of 250 live birds were randomly selected and grouped according to age into 3 groups, viz. below 15 days, 15 days to 5 months and above 5 months for physical examination of the eyes. The worms were collected from positive cases with the help of blunt forceps, washed in normal saline and preserved in 70% ethanol. Later on, the worms were cleared in lactophenol and examined under microscope for morphological identification as per keys and description provided by Yamaguti (1961) and Soulsby (1982). Infected birds were treated by instillation of 10% solution of tetramisole hydrochloride @ 3 drops in both eyes for 2 occasions at an interval of 2 days and the result recorded.

**Results and Discussion**

Birds positive for eyeworms under the nictitating membrane showed varying degree of ophthalmitis with haemorrhagic inflammatory condition surrounding the eyes as a result of scratching due to severe irritation produced by the parasites (Fig 1). Affected birds also showed watery eyes and accumulation of white cheesy material around the eyes besides swelling of nictitating membrane. Morphological study of the worms with smooth cuticle revealed the male ones of 10-13 mm in length with spiral tail without alae and having unequal spicules while the females were 12-17 mm long with a tapered tail. Simple mouth of the parasite had armed buccal capsule with hourglass shaped pharynx (Fig. 2). The worms were identified as *Oxyspirura mansoni* (Cobbold, 1879).

Table 1. Prevalence of *Oxyspirura mansoni* in birds of different age groups

<table>
<thead>
<tr>
<th>Age of birds</th>
<th>No. examined</th>
<th>No. positive (%)</th>
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<tbody>
<tr>
<td>Below 15 days</td>
<td>83</td>
<td>41 (49.40)</td>
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<tr>
<td>15 days to 5 months</td>
<td>89</td>
<td>48 (53.93)</td>
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<tr>
<td>Above 5 months</td>
<td>78</td>
<td>31 (39.74)</td>
</tr>
<tr>
<td>Total</td>
<td>250</td>
<td>120 (48.00)</td>
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</table>
The prevalence of eye worms in birds of three different age groups is presented in Table 1. Eyeworm infection was recorded in 48.0% of birds examined in the present study. The highest prevalence of 53.93% infection was recorded in birds of 15 days to 5 months of age followed by 49.40% in birds of below 15 days age and the lowest 39.74% prevalence recorded in birds of above 5 months of age. Eye worm infected birds treated with 10% solution of tetramisole hydrochloride showed a good recovery response within 7 days as evidenced by disappearance of the parasite, absence of parasite associated irritation and eye discharge and resolution of other inflammatory condition.

Available literature indicates that this eye worm has been reported elsewhere with differences in the prevalence rate. Prevalence as high as 82.09% was reported by Ratanasethakul et al. (1985) in Thailand and 28.90% by Islam et al. (1995) from Bangladesh. However, Ehlers-Bhodigen (1985) could report a very low incidence of 2.57% in Thailand. Wide variation in reported prevalence of *Oxyspirura mansoni* in poultry might be due to variable climatic conditions, availability of cockroach intermediate hosts and the system of managerial practice.

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**References**


